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My home was my castle: Evictions and repossessions in Britain

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Abstract: Using data for 1991 to 1997 from the British Household Panel Survey we investigate the incidence of housing finance problems, evictions and repossessions. Previous research on repossessions and problematical housing debt has focused on cross-sectional data. This paper contributes uniquely to the literature by examining the sequence of household and individual events associated with housing arrears and evictions. Our results show that previous experience of financial problems have a significant and positive association with the current financial situation, and that negative financial surprises are the main route into financial difficulties, controlling for other changes such as divorce or loss of employment. We also confirm the importance of structural, financial and personal factors in determining housing payment problems. Families with higher income, where the head or his/her spouse is in work, and those with greater assets have a lower risk of experiencing problems meeting their housing costs.

JEL Classification: R20, C33

Keywords: arrears, evictions, repossessions, housing tenure, panel data, BHPS

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Non-technical summary

In Britain between 1990 and 1996 over 1 million individuals were subject to mortgage repossession. Repossessions are expensive. They result in penalties, interest payments and legal fees, and are the most dramatic form of an unsustainable housing commitment. Similarly, some households who live in rented accommodation experience an eviction as a traumatic termination of their lease. Eviction and repossessions may in many cases be the result of a lengthy spell of financial difficulties as many will accumulate arrears prior to being evicted.

This paper identifies the causes and consequences of falling into housing payment difficulties, and ultimately being evicted or repossessed, using data from the British Household Panel Survey for 1991 to 1997. Previous research on repossessions and problematical housing debt has almost exclusively focused on cross-sectional data from, for example, the Census or the Survey of English Housing. With such data it is difficult to identify causal relationships — in general, there is little information on what happened prior to the eviction or repossession. This paper therefore contributes uniquely to the literature by directly examining the causes of and links between housing arrears, evictions and subsequent residential choices for owner-occupiers and tenants. We examine the sequence of household and individual events that provide important information on the causes of each. The data show that renters from local authorities and from private landlords have approximately the same risk of reporting housing finance problems. Private tenants, however, are much more likely to face eviction than all other residents.

Multivariate analysis confirms the importance of structural, financial and personal factors in determining which households suffer from mortgage and rental arrears. In particular, families with older heads of households face a reduced risk of housing finance problems. The financial situation has obviously an important rôle: families who command a higher household income, where the head or his/her spouse is employed, and those with a more valuable house are less likely to experience housing finance problems. However, the experience of financial problems in the past has a particularly strong influence on the current financial situation and on the risk of eviction. The regional unemployment rate has an important impact on both the probability of having difficulties meeting housing costs and of eviction, highlighting the importance of the general economic climate in determining unsustainable housing commitments.

We find evidence that financial surprises influence the probability of housing finance problems. In particular, positive surprises are associated with a much lower risk of housing payment difficulties. This is true even when controlling for a wide range of socio-economic factors. Housing finance problems exhibit a large degree of persistence, more than two fifth report housing problems in three or more subsequent interviews. Similarly, the characteristics of the head of household, household structure, housing tenure, and the general economic climate all have significant impacts on the probability of eviction.

Introduction

> "oh please don't drop me home
> because it's not *my* home, it's *their*
> home, and I'm welcome no more"
> (Morrissey, 1986)

In Britain between 1990 and 1996 over 1 million individuals were subject to mortgage repossession (Council of Mortgage Lenders, 1997). Repossessions are expensive. They result in penalties, interest payments and legal fees, and are the most dramatic form of an unsustainable housing commitment. Similarly, some households who live in rented accommodation experience an eviction as a traumatic termination of their lease. Eviction and repossessions may in many cases be the result of a lengthy spell of financial difficulties as many will accumulate arrears prior to being evicted.[1] Considering that paying for housing absorbs about 30% of incomes of house-buyers, housing assets comprise one-third of net household wealth, and that housing loans are the largest element of personal sector debts (Maclennan, 1997), it is clearly important to understand the dynamics behind unsustainable housing commitments.

The aim of this paper is to identify the causes and consequences of falling into housing payment difficulties, and ultimately being evicted or repossessed, using data from the British Household Panel Survey for 1991 to 1997. Previous research on repossessions and problematical housing debt has almost exclusively focused on cross-sectional data from, for example, the Census or the Survey of English Housing (Ford, 1997; Burrows, 1998). With such data it is difficult to identify causal relationships — in general, there is little information on what happened prior to the eviction or repossession. This paper therefore contributes uniquely to the literature by directly examining the causes of and links between housing arrears, evictions and subsequent residential choices for owner-occupiers and tenants. We examine the sequence of household and individual events that provide important information on the causes of each.

Many housing problems experienced in Britian in the 1990s originated in the late 1980s. The 1980s had seen the liberalisation of financial markets with the Financial Services Act (1985) and

the Building Societies Act (1986), which resulted in a highly competitive mortgage market. It became easier for more people to borrow a larger proportion both of the house value and of their income. However, a subsequent tightening of monetary policy saw a sharp increase in interest rates, unemployment and the onset of recession. This resulted in the longest sustained period of depressed housing market activity in recent times (Malpass and Murie, 1994). Added to this was the gradual elimination of the Mortgage Interest At Source system (MIRAS) (Henley, 1998a). Many homeowners found themselves unable to meet their mortgage commitments, and there was a dramatic increase in the number of repossessions from 16,000 in 1989 to 75,500 in 1991 (Malpass and Murie, 1994). Mortgage arrears are at historically high levels (Ford and Burrows, 1999), although the numbers decreased during the early 1990s. In 1997, county courts registered some 63,000 actions for mortgage possessions in England (ONS, 1998). In 1996, on average 820 households lost their home per week (Ford, 1997). These events, together with a more uncertain labour market, have changed expectations about the riskiness involved in taking out mortgages, as well as the returns to investing in the housing market.[2]

Now that the housing recession has come to an end, it is time to examine the developments of the 1990s in more detail. In particular, have the high numbers of arrears and repossessions over the early years of this decade been simply driven by the recession? Or do underlying structural features exist in British society that will stay with us for some time? The answers to these and similar questions are important to policy makers for several reasons. First, the costs of arrears, repossessions and evictions are substantial and might put families at risk of poverty. Ford and Burrows (1999) estimate an average loss of around £14,400 for each repossessed homeowner and research shows that the recovery rate from poverty is rather small (Jarvis and Jenkins, 1998). Second, home ownership, combined with a small private rental sector, has been blamed for hindering (regional) mobility in Britian (Henley, 1998b; Böheim and Taylor, 1999b). Low regional mobility may have a dampening effect on employment (Oswald, 1996, 1998). Housing arrears and negative equity may have an important impact on this.

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[1] Note that, in the remainder of the paper, we use the term 'eviction' to describe both evictions from rented property and repossessions, and 'arrears' for both rent and mortgage arrears.

[2] Ford and Wilcox (1992) and Ford et al (1995) provide evidence on the extent and impact of mortgage arrears and repossessions in the early 1990s. Gregg, Knight and Wadsworth (1997), Booth, Francesconi and Garcia-Serrano (1999) and Nickell et al (1999) investigate various forms of increasing job insecurity in Britain.

Most of the existing literature focuses on homeowners. Doling et al (1988) highlight three sets of factors which are thought to be related to mortgage arrears. "Structural factors" such as interest rates, income-to-loan ratios and social security support levels are underlying reasons for financial difficulties.[3] Income and expenditure factors, such as unemployment, sickness, marriage breakdowns, unanticipated financial difficulties, and other unexpected financial commitments will pose financial burdens and may trigger arrears. Finally, personal factors such as skills when managing monetary problems, personal preferences, and commitment to the house are also obvious candidates. Ford et al (1995) find the most common reasons for mortgage arrears to be redundancy, reduction in earnings, small business failure and relationship breakdown.

Households with certain characteristics are significantly more likely to experience financial problems with their housing. For example, households with younger heads are at greatest risk of having mortgage arrears (Ford, 1993; Nettleton and Burrows, 1998; Ford and Burrows, 1999). One reason for the association between age and the risk of financial problems will be related to the (financial) inexperience of younger families. Younger persons are also more likely to be laid off than older persons (Böheim and Taylor, 1999b). Furthermore, older persons will in general have had more time to accumulate savings to cushion against times of unexpected financial hardship. Thus sudden, negative changes in the labour market status of a household member will affect younger families more than older families.

Unexpected financial developments also play a rôle in partnership dissolution (Becker et al, 1977; Weiss and Willis, 1997; Böheim and Ermisch, 1999). Marriage breakdowns are associated with mortgage arrears and the divorced are more at risk of indebtedness than married persons (Burrows, 1998). Financial circumstances clearly play a central rôle and those who are in employment face a lower risk of facing housing payment problems than those without a job. The highly educated generally command higher salaries and are also at lower risk than those with little or no formal education. The self-employed, however, are at greater risk (Burrows, 1998).

Our results show that a previous experience of housing finance problems has a significant positive association with the current situation. This is consistent with Jarvis and Jenkins (1998)

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[3] Brookes *et al.* (1994), using aggregate data, point to inflation and interest rates in explaining mortgage repayment difficulties.

who demonstrate that the transitions from poverty are limited and are associated with small moves within the income distribution. Indeed, an unexpected finding from our analysis is the development of housing payment difficulties over time. Although most households (60%) manage to escape financial problems from one year to the next, some 30% of households who experience difficulties report being in housing finance problems in at least four interviews. In contrast to cross-sectional studies we are able to investigate the importance of unexpected financial development. By using respondents' financial expectations for the forthcoming year we are able to construct an indicator for financial surprises. We would expect a strong statistical association between unexpected financial developments and being evicted. Indeed, our findings suggest that negative financial surprises are the main route into financial difficulties, controlling for other changes such as divorce or loss of employment.

Further, our results show further that local authority tenants and private renters have similar risks of reporting problems meeting housing payments. Private tenants, however, are significantly more likely to face eviction than those in other housing tenures. Although the private rental sector is comparatively small in the UK and is to a large extent ignored in the literature, we show that it has a high incidence of evictions. We also confirm the importance of structural, financial and personal factors in determining housing payment problems. Families with higher income, where the head or his/her spouse is in work, and those with greater assets have a lower risk of experiencing problems meeting their housing costs.

We find a strong positive relationship between negative equity and the likelihood of being evicted. Dorling and Cornford (1995) show that young, lowly paid people with the least capacity to increase their incomes and who had bought the cheapest kind of housing were most likely to hold negative equity in 1993. Further evidence suggests that these younger persons are unlikely to have substantial savings to absorb negative equity (Early, 1994). Our results reflect these findings indicating that it is this group who are most at risk of mortgage arrears and of eviction.

Data

The analysis uses data collected in the British Household Panel Survey (BHPS), a nationally representative sample of some 5,500 households recruited in 1991, containing approximately 10,000 persons. These same individuals are interviewed each successive year. If anyone splits from their original households to form a new household, all adult members of the new

households are also interviewed. Children in original households are interviewed when they reach the age of 16. Thus the sample remains broadly representative of the population of Britain as it changes through the 1990s. We examine the behaviour of the households between waves one and seven, over the period 1991 to 1997, using the head of household as unit of analysis.[4]

The core questionnaire elicits information about income, labour market status, housing tenure and conditions, household composition and consumption, education and health at each annual interview. Information on employment changes that have occurred within the period between interviews is also collected. If an original sample member moves he or she will be asked the reasons for doing so.[5] Additionally, questions regarding financial problems with housing costs are asked, "Have you had problems paying for your housing over the last 12 months?", "Over the last 12 months were you ever 2 months or more late with your rent/mortgage payments?", and "Did you have to borrow to pay the rent/mortgage?" (Taylor et al, 1998).

We exclude full-time students, who tend to live in temporary accommodation and move frequently. We use an unbalanced panel, but individuals have to be interviewed at least at two consecutive waves to be included. As a preliminary exercise and as a means of data validation, we present several descriptive tables. Table 1 shows that the pattern of housing tenure over the first seven years of the BHPS is relatively stable. There are modest increases in the proportion owning their homes outright and individuals living in privately rented accommodation over the seven waves. Note that only 8% of households rent their property from other than the local authority.[6] The proportions in each housing tenure category correspond well with evidence from other data sets. For example, Wadsworth (1998) reports figures from the Labour Force Survey (LFS) showing that in 1995, 73.7% of the working age population were in owner-occupied accommodation, 17.8% were in Council housing and 8.5% in other (private) rented. Our figures for the corresponding year (Wave 5) are 67.9%, 23.3% and 8.7% of individuals.[7] We exclude

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[4] The head of household in the BHPS is defined as the principal owner or renter of the property. Where there is more than one potential head the eldest takes precedence.

[5] If evicted individuals are more likely to end up homeless, differential attrition could be a problem. Homeless persons are, by definition, not included in this sample. The BHPS attempts to follow all movers who remain in Great Britain and, although attrition among migrants is substantially higher than that among non-migrants, Buck (1997) reports that almost 75% of actual movers between waves 1 and 2 were traced.

[6] Local authority tenants include renters from housing associations who have similar rates throughout.

[7] The difference between Wadsworth's and our sample can be explained by the inclusion of pensioners. A working age sample from the BHPS yields 74.8%, 16.5% and 8.7% (Böheim and Taylor, 1999a)

outright owners from all subsequent analysis as they have no housing costs and are therefore not at risk.

We construct an indicator for the difficulty in meeting housing payments. This takes the value 1 if the respondent answers yes to any of the following questions, "Did you have problems paying for your housing over last 12 months?", "Over last 12 months were you ever 2 months or more late with your rent/mortgage payments?", or "Did you have to borrow to pay the rent/mortgage?"; or 0 otherwise. This indicator clearly has limits. Firstly the time gap between the interviews causes potential problems, as we do not know if a sudden change in circumstances between one interview and the next occurred. Second, there might be substantial measurement error if there is a stigma attached to poverty. Table 2 shows the fraction of those in difficulties by housing tenure. Local authority tenants have difficulty rates between 20% at the beginning of the decade and around 11% at the end of the observation period. Private renters have, on average, a similar level of problems than those with mortgages (12% vs. 11%). The latter, however, form the largest group (60%) of all who report financial difficulties.

Table 3 lists the percentage of evictions by housing tenure and wave, where housing tenure is measured at the date of interview prior to eviction. The privately rented sector is most exposed to evictions, on average about 5% of households are evicted each year. In contrast, about 0.3% of mortgagees are evicted. Although private renters account for a minority of those reporting financial difficulties, they form 60% of those who are evicted. Local authority renters account for a further 21% and mortgagees for the remaining 18%.[8] Eviction rates decline over these years reflecting the improved economic situation.

Table 4 lists means and standard deviations for key variables by whether households were evicted since the last observation. Households who are evicted tend to have younger heads and have a lower household income. Their household income is on average lower after the evictions, hinting at a reduced household size—which drops on average from 2.4 to 2.1. The number of

[8] Mullen *et al.* (1999) analyse eviction rates in the socially rented sector in Scotland and report that housing association secure tenants have the lowest eviction rates. They explain differential eviction rates in the social rent sector by different practices of rent arrears recovery by landlords, differences in tenant profiles, and, to a lesser extent, by different statutory rights.

waves we observe households who experience eviction is not different from those who do not. Differential attrition seems to be of little importance in this sample.

We are most interested in the dynamics of arrears and evictions, as little evidence is available on this subject. In Table 5 we list the distribution of repeated housing problems for the 25% of households who report at least one incidence of problems. About 30% of households who experience housing finance difficulties have problems only once, 24% twice, and 30% say in 4 or more interviews that they have problems paying for their housing. Of those who are evicted, 80% are observed being evicted once and 20% experience two evictions. The correlation of housing problems between two consecutive waves is 0.43, indicating that about 60% escape housing difficulties from one year to the next. The correlation for evictions is around 0.11, indicating that only a small minority of persons are evicted in two consecutive years.

The correlation between previous year's housing problem and being evicted since is 0.03, indicating little relationship between financial difficulties at the time of the previous interview and subsequently being evicted. This low correlation suggests that sudden changes in financial circumstances are associated with evictions.

To investigate the impact of unexpected financial development we construct an indicator for financial surprises. All respondents are asked at each interview whether they expect to be better or worse off in the next year. The actual question is "Looking ahead, how do you think you yourself will be financially a year from now, will you be ...?". The possible answers are "better off'", "the same", "worse off", "refused" and "do not know". A similar question about the financial development since the last interview is also asked. The combination of these two questions allows the construction of an indicator of financial surprises. If the household head said (at the interview at wave *t*) s/he would expect to be better off at *t+1* and ends up feeling worse off, we say that s/he experienced a "large negative surprise" relative to her/his expectations. If s/he ends up feeling that her/his financial situation has not changed, we say s/he experienced a "negative surprise" relative to her/his expectations; "positive" and "large positive" surprises are defined analogously. (See also Böheim and Ermisch, 1999, who apply this methodology to marital stability.) There is evidence that those who report a negative surprise are more at risk of

eviction (Table 6). However, the majority of households who report housing finance problems or evictions come from those who report no surprises.

Methods

The data allow several approaches to investigate the problem of housing difficulties and evictions using regression analysis. The primary interest we have is in the longitudinal aspect of reporting housing finance problems. We thus describe patterns of movement over time and estimate models for the probability of being in arrears and being at risk from eviction. We observe each head of household *i=1,2, ... N* at times *t=1, ..., T* and observe whether the household is in financial difficulties. The propensity to be in financial distress can be written:

$$y_{it}^* = X_{it}b + n_i + e_{it} \qquad [1]$$

where

$$y_{it} = \begin{cases} 1 & \text{if } y_{it}^* > 0 \\ 0 & \text{otherwise,} \end{cases}$$

and $n_i \sim IN(0, s_n^2)$ captures the individual-specific unobservable effect and $e_{it} \sim IN(0, s_e^2)$ is random error. Further, n_i and e_{it} are independent of each other and of X_{it}, the set of explanatory variables. We assume that the relationship between the covariates and the dependent variable can be described by a normal distribution. This is the specification of a random-effects panel probit.[9] To ensure identification, s_e is set to one and the likelihood function is parameterised in terms of the within-subject correlation rho,

$$\text{rho} = s_n^2/(s^2_n+s^2_e). \qquad [3]$$

This indicates the proportion of variance that is explained by the panel-variance component, n_i. n_i captures time invariant unobserved differences between the observations, for example in financial management skills. If rho is zero, then the panel-variance level component is unimportant and the panel estimator is not different from a cross-sectional (or pooled) estimation.

As seen in Table 5 the number of repeated evictions is low. The estimation of a random-effects model is therefore not likely to provide different estimates of the covariates from a pooled probit.

In all our specifications for the random-effects probit on evictions we consistently obtained estimates of rho=0. We therefore present only a pooled probit estimation for this model.

Estimation Results

In our regressions we employ several groups of variables which capture the complex relationship between the local economic situation and the characteristics of the household.[10] The first group of variables consists of personal characteristics of the head of household, such as sex, age, formal education and labour market status. Second, we use information on the household structure, number of children and age of the youngest child as explanatory variables. Thirdly, we employ information on households tenure status to investigate differences in financial difficulties. A fourth group of explanatory variables provides information on the financial situation of the household, including household income, receipt of Housing Benefit, housing value if mortgagee, whether the original mortgage is higher then the current resale value ("negative equity"), and an indicator of financial surprises in the estimation of housing finance problems. The indicator for financial surprises requires that a household is observed at three subsequent interviews. The sample size is thus slightly smaller than with just two consecutive observations. The general economic climate is captured by the regional unemployment rate and the prevailing base interest rate at the date of interview.[11]

Estimation of the risk of housing finance problems

Table 8 lists the results from a random-effects panel probit estimation of the probability of reporting housing finance problems. The dependent variable takes the value 1 if any housing finance problems are reported and 0 otherwise.[12] The reported standard errors are corrected for multiple observations on the same household. The panel-variance component, rho, is significantly different from zero and relatively large. About 19% of all variance in housing finance problems can be attributed to unobserved household-specific characteristics. This demonstrates quite clearly the importance of following households over time when studying

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[9] Greene (1997) and Baltagi (1995) provide more details on the random effects probit approach.
[10] The summary statistics of these variables can be obtained from Table 7.
[11] The interest rate is the base rate of selected retail banks (Barclays Bank, Lloyds/TSB Bank, HSBC Bank and National Westminster Bank) and was obtained from the Bank of England, 1999.
[12] We have experimented with various specifications, including an ordered probit where the dependent variable took the value 1 if the household had problems paying for their housing in the past 12 months, the value 2 if they have been two or more months late paying for their housing, and the value 3 if they had to borrow to meet their housing costs. The results are consistent with those reported in the paper, and are therefore omitted for reasons of parsimony.

financial distress of households. Poverty, of which difficulties meeting housing costs are but one facet, is a situation which affects people over a long(er) period.

Female heads of households have the same risk of experiencing difficulties meeting their housing payments as male heads. There is evidence that ethnic minority heads of households have a higher risk of housing payment problems than whites, all things equal. The estimated coefficients on age and age squared suggest that the risk of housing finance problems is quadratic in age. The risk is increasing till about the age of 40 and declining thereafter. Heads who have higher formal education (educated to 'A' Level standard or above) are at less risk of experiencing housing finance problems. Family circumstances are important. The divorced and cohabitees are exposed to a significantly larger risk of housing finance problems than married heads of households. The number and age structure of children, however, are not associated with a higher risk of reporting housing finance problems.

Unemployed heads of households are more likely to report housing finance problems than those in work. We would expect the severity of the financial problems to increase with duration of unemployment spells if there were no state benefits to support the unemployed and unemployed individuals had to rely on dissaving. The negative association of unemployment duration and housing finance problems, however, even after controlling for benefit receipt, implies adjustment of expenditure and expectations with unemployment duration. Households where the head is self-employed are significantly more likely to report housing finance problems than employees. Ford et al (1995) argue that in most cases self-employment predates mortgage indebtedness. The implications of this result extend beyond housing policies. The labour market has become more flexible (Booth et al, 1999) and especially for men self-employment is increasingly a way out of unemployment (Taylor, 1997; Böheim and Taylor, 1999b). Many who start their own business only have as collateral their own home (Keeble and Walker, 1994). An entangled relationship between business and housing wealth can lead to a spillover of problems from one sphere to the other (Burrows and Ford, 1997).

In contrast to Burrows (1998), households with a retired head are no more likely to report housing finance difficulties than employees. A working spouse is significantly associated with fewer housing finance problems. The local labour market structure is also statistically significantly associated with housing payment problems. Regional unemployment rates and

financial problems are positively related, which suggests that the local economic climate has important implications for households' welfare.

Social renters are significantly more likely to report housing problems than those living in their own homes. There is no statistically significant association between private renters and housing finance problems. A crowded home is in general an indicator of poverty. The association between the number of persons per room and housing finance problems is therefore expected. A strong association between problems meeting housing costs and whether the household has negative equity emerges. Furthermore, an additional mortgage is related to a higher risk of financial difficulties, and regional effects are important. Households in the South, where house prices are higher, face a higher risk of financial housing difficulties. Moreover, the recession of the early 1990s was particularly severe in the South.

The ability to meet housing payments is clearly related to the financial situation in general. The negative association between household income and financial housing problems is thus hardly unexpected. The positive impact of the base interest rate and housing finance problems points to a significant number of floating interest rate mortgages.[13] It also suggests that many people did not budget for mortgage interest rises.

The importance of expectations is evident in the large and statistically significant coefficients on the financial surprise indicators. Positive surprises are associated with a reduced likelihood of reporting housing finance problems and negative surprises have the opposite effect. This finding confirms our initial hypothesis that sudden, unexpected deteriorations of finances are the main trigger for housing finance problems. The strongest association between housing finance problems this year is with housing problems last year. Therefore, despite controlling for a large number of demographic, household and local characteristics, as well as financial surprises, the strongest predictor of having payment difficulties is previous payment difficulties.

Estimation of the probability of eviction

In Table 9 we report the results from estimating the probability of eviction. As mentioned previously, because of the low incidence of repeated evictions, we pool all households and

estimate the probability of them being evicted within the next year. The dependent variable is coded 1 if the household is evicted between one year and the next, 0 otherwise. All reported standard errors are corrected for repeated observations on the same households (robust Huber-White estimates).

The estimated risk of eviction is negatively associated with age, with the quadratic in age poorly determined. The risk of being evicted increases with approaching retirement. Note the contrast with the probability of payment difficulties, which is increasing at first and declining in later life. We find that educated heads of households face a lower risk of being evicted, the coefficient on the 'A'-Levels or equivalent term is particularly large and well determined. There is no evidence that cohabiting couples face a different risk from legally married couples. The risk is greater for the divorced, although the coefficient is poorly determined.

There is no significant association between the labour market status of the head and the probability of being evicted. This contrasts markedly with the results for having problems meeting housing costs. The probability of eviction falls with the duration of an unemployment spell, suggesting that unemployed individuals adjust their expenditure patterns accordingly. Also, a working spouse is associated with a reduced risk of losing the home. The higher the regional unemployment rate the higher is the risk of being evicted, again emphasising the link between housing payment problems and the general economic climate.

Tenure status shows a strong statistical association with the probability of being evicted, with private renters at most risk. Muellbauer and Cameron (1997), analysing the variation in court possession orders, conclude that courts and mortgage lenders kept to their implicit promise not to possess in cases where DSS mortgage payments were being made directly to mortgage lender. This would explain (at least part of) the differential between the eviction rates in the social and private rental sector. Again, more crowded households face a greater risk of eviction. For those who live in their own home a higher mortgage is associated with a lower probability of being evicted. Negative equity is associated with a higher risk of eviction. For those who intend to stay in their homes it should be irrelevant whether the original houseprice is higher or lower than the house's current market value. Negative equity should only concern those who, for example

[13] Prior to 1989, fewer than 7% of UK home owners used fixed rate mortgages, in stark contrast to elsewhere in Europe where fixed rates are the norm. In the mid-1990s, fixed rate loans comprised about one third of new loans, although many of these have a relatively short fixed rate duration (typically under 4 years) (Maclennan, 1997).

through loss of employment, cannot keep up their mortgage payments as they will not be able to recoup the original houseprice when selling the house. Overcommitment with respect to mortgage payments is also evident with a significant coefficient in the estimation for housing finance problems. This variable could not be used for estimating the risk of eviction due to collinearity.

The coefficient on household income is poorly determined, so we cannot reject the null hypothesis that there is no association between income and the probability of being evicted, all else equal. This is an unexpected result.[14] However, having had housing finance problems last year is associated with an increased risk of being evicted. From the estimation of the probability of reporting housing finance problems we have concluded that richer households are less likely to face financial difficulties. It seems reasonable to assume that income influences the probability of being evicted through previous experience of housing finance problems. The large significant coefficient on last year's receipt of Income Support (IS) supports this idea.[15] Households who received IS last year are more likely to be evicted than those who did not.

These results clearly demonstrate that the personal characteristics of the head of household, the structure of the household, financial circumstances, tenure status and the general economic climate all show significant correlation with the probability of reporting housing finance problems and being evicted.

Conclusion

In this paper we have addressed the question of housing finance problems and the related question of evictions using the BHPS. To our knowledge, this is the first attempt using panel data to investigate this important aspect of the British housing market. We also provide an analysis of home owners and social and private renters. Private renters have not featured in previous research relating socio-economic characteristics to housing payment problems and evictions. Most previous analysis uses cross-sectional data which do not allow a longitudinal assessment of the precarious circumstances that some households fall into. Our data show that renters from

[14] However, personal characteristics of the head, household structure, tenure and receipt of benefits are highly correlated. Reestimating the model excluding household income does not change the overall statistics or results.
[15] Income Support is the main means tested benefit in the UK.

local authorities and from private landlords have approximately the same risk of reporting financial problems with respect to paying their housing bills. Private tenants, however, a much more likely to face eviction than all other residents.

Our results confirm the importance of structural, financial and personal factors. In particular, families with older heads of households face a reduced risk of housing finance problems. The financial situation has obviously an important rôle: families who command a higher household income, where the head or his/her spouse is employed, and those with a more valuable house are less likely to experience housing finance problems. However, the experience of financial problems in the past has a particularly strong influence on the current financial situation and on the risk of eviction. The regional unemployment rate has an important impact on both the probability of having difficulties meeting housing costs and of eviction, highlighting the importance of the general economic climate in determining unsustainable housing commitments.

We have found evidence that financial surprises influence the probability of housing finance problems. In particular, positive surprises are associated with a much lower risk of housing payment difficulties. This is true even when controlling for a wide range of socio-economic factors. Housing finance problems exhibit a large degree of persistence, more than two fifth report housing problems in three or more subsequent interviews.

The issues raised here have clear policy implications. The main points can be thought of following two general issues. The first is the concern with the continuation of the current balance of tenure. The second is the concern with the protection, where needed, of those who are at risk of losing their homes. An important aspect of future research is the investigation of recovery from housing finance problems.

Tables

Table 1: Housing tenure by wave, BHPS Waves 1-7

(Column percentages)

Housing tenure	Wave							Mean
	1	2	3	4	5	6	7	
Owned outright	24.0	24.7	25.7	26.1	26.6	27.2	27.8	26.0
Owned mortgage	42.6	42.2	42.0	41.7	41.3	41.3	41.1	41.8
Local authority rent	25.5	24.7	24.0	24.2	23.3	23.0	22.4	23.9
Private rent	8.0	8.4	8.4	8.0	8.7	8.5	8.6	8.4

Note: BHPS. Cross-sectional weights. N=32,382 households.

Table 2: Housing difficulties by tenure and wave, BHPS Waves 1-7

(Per cent in difficulties, row percentages)

Housing tenure	Wave							Mean
	1	2	3	4	5	6	7	
Owned mortgage	16.4	15.6	12.8	10.7	8.8	7.1	7.1	11.3
Local authority rent	19.8	16.4	15.3	14.7	13.4	10.9	11.1	14.7
Private rent	14.7	15.4	11.6	13.1	9.1	8.6	11.6	12.0
Mean	17.3	15.9	13.5	12.3	10.3	8.5	8.9	12.5

Note: BHPS. Cross-sectional weights. N=25,952 households.

Table 3: Evictions by housing tenure and wave, BHPS Waves 1-7

(Per cent evicted)

Housing tenure	Wave						Mean
	2	3	4	5	6	7	
Owned mortgage	0.31	0.27	0.24	0.23	0.36	0.07	0.25
Local authority rent	0.78	0.72	0.66	0.34	0.58	0.76	0.64
Private rent	4.13	7.59	4.95	5.92	3.22	6.3	5.33

Note: BHPS. Cross-sectional weights. N=19,578 households. Housing tenure measured at day of interview prior to eviction.

Table 4: Means (Standard Deviations) of continuous variables, by whether evicted

	Not evicted$_t$	Evicted$_t$
Age of head of household	48.0 (17.0)	38.7 (16.9)
Monthly Household Income$_{t-1}$	1,591.1 (1274.9)	1,416.8 (1444.9)
Monthly Household Income$_t$	1,675.1 (1390.6)	1,199.8 (968.5)
Household size$_{t-1}$	2.6 (1.4)	2.4 (1.2)
Household size$_t$	2.6 (1.4)	2.1 (1.2)
Waves observed	6.6 (1.0)	6.4 (1.2)

Note: BHPS. Cross-sectional weights. N=19,578 households.

Table 5: Per cent of repeated housing problems or evictions

	Per cent of all housing difficulties	Per cent of all evictions
1	29.6	80.5
2	23.8	19.5
3	16.8	—
4+	29.7	—
N	2998	177
Correlation(t-1, t)	0.43	0.11

Note: BHPS. Cross-sectional weights.

Table 6: Financial surprises and the relation with housing problems

	Housing Problems$_t$		Evictions$_{t+1}$	
	Risk	Share	Risk	Share
Large negative surprise	22.8	12.5	0.3	4.4
Negative surprise	14.9	31.1	0.6	36.9
No surprise	8.8	44.7	0.3	49.2
Positive surprise	5.9	9.5	0.2	8.6
Large positive surprise	10.5	2.1	0.2	0.9

Note: The surprise indicator refers to the period between t-1 and t. "Risk" is defined as percentage of all who experience this surprise and experience housing problems/eviction. "Share" is the percentage of all who experience housing problems/eviction also had this type of surprise. Surprises are defined on the reponses of the head of household to questions eliciting expectations on financial developments.

Table 7: Summary statistics of variables.

	Mean (S.D.)	
Personal Characteristics of Head		
Female	0.282	(0.450)
White	0.950	(0.217)
Age	46.374	(16.022)
Education		
Higher	0.116	(0.320)
A-levels	0.308	(0.462)
O-levels	0.173	(0.378)
Less than O-levels	0.093	(0.291)
No formal education	0.305	(0.461)
Marital Status		
Married	0.562	(0.496)
Cohabiting	0.082	(0.274)
Divorced or separated	0.131	(0.338)
Widowed	0.102	(0.303)
Never married	0.124	(0.329)
Labour Market Status		
Self-employed	0.106	(0.308)
Employed	0.053	(0.223)
Unemployed	0.569	(0.495)
Retired	0.160	(0.367)
Other	0.111	(0.314)
Duration of unemployment (months)	0.068	(0.508)
Regional unemployment rate	8.306	(2.170)
Health limits work	0.190	(0.393)
Spouse has job	0.443	(0.497)
Household Structure		
Number of children	0.687	(1.029)
Age of youngest child		
Younger than 5	0.190	(0.392)
Between 6 and 10	0.075	(0.264)
Between 11 and 16	0.097	(0.296)
Tenure Status		
Mortgagee	0.594	(0.491)
Social housing	0.233	(0.423)
Housing association	0.055	(0.228)
Private renter	0.096	(0.294)
Persons per room	0.652	(0.315)
Years at current address	10.073	(9.124)
Mortgage/10,000	1.625	(2.456)
Repayment mortgage	0.010	(0.098)
Additional mortgage	0.032	(0.176)
Insurance	0.162	(0.369)
Negative Equity	0.021	(0.144)
Region		
London	0.102	(0.303)
South-west	0.083	(0.276)
South-east	0.187	(0.390)
Financial Situation		
Log Household Income	7.124	(1.233)
Positive financial surprise	0.180	(0.384)
Negative financial surprise	0.271	(0.445)
Housing problems last year	0.126	(0.332)
Receipt of Income Support$_t$	0.182	(0.386)
Receipt of Income Support$_{t-1}$	0.190	(0.392)
Receipt of Housing Benefit$_t$	0.102	(0.303)
Receipt of Housing Benefit$_{t-1}$	0.115	(0.319)
Interest rate	6.748	(1.299)
N 18,039 Households		

Table 8: Results from Random-effects Panel Probit Estimation for Housing Problems

	Coef. (S. E.)
Personal Characteristics of Head	
Female	0.021 (0.051)
White	-0.296 (0.072)
Age	0.030 (0.008)
Age squared/100	-0.038 (0.008)
Education	
Higher	-0.376 (0.075)
A-levels	-0.140 (0.051)
O-levels	-0.060 (0.055)
Less than O-levels	-0.061 (0.065)
No formal education	reference category
Marital status	
Married	reference category
Cohabiting	0.207 (0.065)
Divorced or separated	0.154 (0.067)
Widowed	0.054 (0.092)
Never married	-0.035 (0.074)
Labour Market Status of head	
Self-employed	0.161 (0.056)
Employed	reference category
Unemployed	0.385 (0.078)
Retired	0.066 (0.087)
Other	0.014 (0.063)
Duration of unemployment (months)	-0.111 (0.038)
Health limits work	0.178 (0.045)
Regional unemployment rate	0.047 (0.011)
Spouse has job	-0.115 (0.047)
Household Structure	
Number of children	0.006 (0.028)
Age of youngest child	
Younger than 5	0.085 (0.066)
Between 6 and 10	0.057 (0.078)
Between 11 and 16	0.011 (0.067)
Tenure Status	
Mortgagee	reference category
Social housing	0.126 (0.057)
Housing association	0.141 (0.081)
Private renter	0.022 (0.067)
Persons per room	0.182 (0.063)
Years at current address	-0.001 (0.002)
Mortgage/10,000	0.011 (0.008)
Repayment mortgage	0.164 (0.164)
Additional mortgage	0.209 (0.086)
Insurance	-0.037 (0.049)
Negative Equity	0.222 (0.106)
Region	
London	-0.019 (0.065)
South-west	0.154 (0.067)
South-east	0.296 (0.053)
Financial Situation	
Log Household Income	-0.053 (0.012)
Positive financial surprise	-0.257 (0.048)
Negative financial surprise	0.276 (0.035)
Housing problems last year	1.096 (0.044)
Receipt of Income Support$_t$	-0.076 (0.053)
Receipt of Income Support$_{t-1}$	0.039 (0.050)
Receipt of Housing Benefit$_t$	0.320 (0.052)
Receipt of Housing Benefit$_{t-1}$	-0.060 (0.052)
Interest rate	0.040 (0.012)
Constant	-2.507 (0.266)
rho	0.191 (0.026)

Note: "Housing problems" comprises "having problems with payments", "payments required cutbacks" or "required borrowing", and "being 2 month or more late" (see text for a discussion). N=18,039 households. Log-likelihod=-4,847.3.

Table 9: Results from a probit estimation for the incidence of eviction

	Coefficient (S.E.)
Personal Characteristics of Head	
Female	-0.125 (0.129)
White	0.353 (0.211)
Age	-0.029 (0.018)
Age squared /100	0.027 (0.021)
Education	
Higher	-0.213 (0.163)
A-levels	-0.335 (0.136)
O-levels	-0.190 (0.132)
Less than O-levels	-0.005 (0.157)
No formal education	reference
Marital Status	
Married	reference
Cohabiting	-0.061 (0.182)
Divorced or separated	0.229 (0.166)
Widowed	0.126 (0.320)
Never married	0.021 (0.190)
Labour Market Status	
Self-employed	-0.009 (0.167)
Employed	reference
Unemployed	0.224 (0.217)
Retired	-0.310 (0.284)
Other	-0.116 (0.155)
Duration of unemployment (months)	-0.019 (0.010)
Regional unemployment rate	0.063 (0.026)
Health limits work	0.113 (0.123)
Spouse has job	-0.270 (0.135)
Household Structure	
Number of children	-0.173 (0.075)
Age of youngest child	
Younger than 5	0.424 (0.162)
Between 6 and 10	0.389 (0.256)
Between 11 and 16	0.055 (0.243)
Tenure Status	
Mortgagee	reference
Social housing	-0.029 (0.193)
Housing association	0.040 (0.251)
Private renter	0.932 (0.166)
Persons per room	0.371 (0.113)
Years at current address	-0.010 (0.008)
Mortgage/10,000	-0.105 (0.042)
Insurance	0.138 (0.187)
Negative Equity	0.687 (0.248)
Region	
London	0.131 (0.138)
South-west	0.173 (0.167)
South-east	0.398 (0.139)
Financial Situation	
Log Household Income	0.017 (0.026)
Positive financial surprise	-0.159 (0.155)
Negative financial surprise	0.100 (0.109)
Housing problems last year	0.189 (0.109)
Receipt of Income Support$_t$	0.022 (0.153)
Receipt of Income Support$_{t-1}$	0.233 (0.132)
Receipt of Housing Benefit$_t$	-0.102 (0.142)
Receipt of Housing Benefit$_{t-1}$	-0.111 (0.141)
Interest rate	-0.027 (0.034)
Constant	-3.122 (0.686)
Log-likelihood	-352.5
Pseudo R2	0.225
N	17,078

Note: Dependent variable eviction is coded 1 if the household is evicted between t and t+1, 0 otherwise. Excluded are students and outright owners. Indicators for "repayment mortgage" and "additional mortgage" had to be dropped due to collinearity.

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